IN THE CLAIMS

Please amend the claims as follows.

1.   (Currently Amended)   A furnace resource allocator for use in semiconductor wafer fabrication, wherein said furnace resource allocator is operable to monitor at least one furnace relative to a remain-open threshold [[,]] and selectively flag said at least one furnace in response thereto, the remain-open threshold associated with an amount of time the at least one furnace is allowed to remain open.

2. (Currently Amended) A furnace resource allocator ~~as claimed in Claim 1 wherein said furnace resource allocator is~~ operable to allocate a plurality of furnaces to a plurality of furnace tasks within a furnace process system in semiconductor wafer fabrication, ~~said furnace resource allocator capable of rejecting a furnace for carrying out a furnace task if said furnace has been open longer than a predetermined length of time,~~ said furnace resource allocator comprising:

a furnace idle timer unit that comprises a plurality of timers, where<u>in</u> each timer is associated with one of said plurality of furnaces, and wherein each timer records an amount of time that has elapsed since its respective furnace ~~has been~~ <u>was</u> open<u>ed</u>; and

a furnace resource allocation controller that is capable of:

selecting a furnace from said plurality of furnaces;

obtaining from said furnace idle timer unit a value of said elapsed time since said selected furnace ~~has been~~ <u>was</u> open<u>ed</u>; and

rejecting said selected furnace for carrying out a furnace task if said value of elapsed time for said selected furnace is greater than a ~~predetermined~~ <u>specified</u> length of time.

3. (Currently Amended) The furnace resource allocator as set forth in Claim 2 wherein said ~~predetermined~~ <u>specified</u> length of time is fifty five minutes.

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4.   (Original)   The furnace resource allocator as set forth in Claim 2 further comprising a graphical user interface that is operable to send signals from a user to said furnace resource allocator and to send signals from said furnace resource allocator to said user.

5.   (Currently Amended)   The furnace resource allocator as set forth in Claim 2 wherein said furnace ~~process~~ resource allocation controller is capable of performing pre-production checks on each furnace that is selected to carry out a furnace task.

6.   (Currently Amended)   The furnace resource allocator as set forth in Claim 2 wherein:

said selected furnace comprises a first selected furnace; and

said furnace ~~process~~ resource allocation controller is capable of selecting ~~another~~ a second furnace from said plurality of furnaces for carrying out [[a]] the furnace task after ~~a previously~~ the first selected furnace has been rejected.

7.   (Original)   The furnace resource allocator as set forth in Claim 2 further comprising a furnace process monitoring controller that is capable of monitoring measurable characteristics associated with an executing furnace task.

8.   (Currently Amended)   The furnace resource allocator as set forth in Claim 7

wherein said furnace process monitoring controller is capable of <u>at least</u> one of:

sending a message to work stream software associated with said furnace resource allocator to

inform said work stream software than [[a]] <u>the executing</u> furnace task has been successfully

completed; and

causing said furnace idle timer unit to reset [[a]] <u>the</u> value of ~~an idle~~ <u>elapsed</u> time for [[a]] <u>the</u>

furnace that has successfully completed [[a]] <u>the executing</u> furnace task.

9.   (Original)   The furnace resource allocator as set forth in Claim 2 further

comprising a memory unit that comprises furnace process software that is capable of operating

elements of said furnace resource allocator.

10.   (Currently Amended)   The furnace resource allocator as set forth in Claim 2

further comprising a furnace cycle purge process controller that is capable of executing a furnace

cycle purge process on a furnace to purge said furnace of moisture that said furnace absorbed ~~during~~

~~the time that~~ <u>when</u> said furnace was open.

11.   (Currently Amended)   The furnace resource allocator as set forth in Claim 10

wherein said furnace cycle purge process controller is capable of causing said furnace idle timer unit

to reset [[a]] the value of ~~an idle~~ elapsed time for [[a]] the furnace that has successfully completed

[[a]] the furnace cycle purge process.

12.   (Currently Amended)   A method of operating a furnace resource allocator in

semiconductor wafer fabrication, comprising the steps of:

    monitoring at least one furnace relative to a remain-open threshold; and

    selectively flagging said at least one furnace in response thereto;

    wherein the remain-open threshold is associated with an amount of time the at least one

furnace is allowed to remain open.

13. (Currently Amended)   A method of operating a furnace resource allocator in

semiconductor wafer fabrication, comprising ~~The method as claimed in Claim 12 wherein said~~

~~method further comprises~~ the steps of:

recording in a furnace idle timer unit, for each furnace of a plurality of furnaces, an amount of

time that has elapsed since each furnace ~~has been~~ was open<u>ed</u>;

selecting a furnace from said plurality of furnaces;

obtaining from said furnace idle timer unit a value of said elapsed time since said selected

furnace ~~has been~~ was open<u>ed</u>; and

rejecting said selected furnace for carrying out a furnace task if said value of elapsed time for

said selected furnace is greater than a ~~predetermined~~ specified length of time.

14. (Currently Amended)   The method as set forth in Claim 13 wherein said

~~predetermined~~ specified length of time is fifty five minutes.

15. (Currently Amended)   The method as set forth in Claim 13 further comprising

the step<u>s</u> of:

sending signals from a user to said furnace resource allocator through a graphical user

interface; and

sending signals from said furnace resource allocator to said user through said graphical user

interface.

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16.   (Original)   The method as set forth in Claim 13 further comprising the step of:

performing pre-production checks on each furnace that is selected to carry out a furnace task.

17.   (Currently Amended)   The method as set forth in Claim 13 wherein said selected furnace comprises a first selected furnace, and further comprising the step of:

selecting another a second furnace from said plurality of furnaces for carrying out [[a]] the furnace task after a previously the first selected furnace has been rejected.

18.   (Original)   The method as set forth in Claim 13 further comprising the step of:

monitoring measurable characteristics associated with an executing furnace task with a furnace process monitoring controller.

19.   (Currently Amended)   The method as set forth in Claim 18 further comprising the steps of:

sending a message from said furnace process monitoring controller to work stream software associated with said furnace resource allocator to inform said work stream software that [[a]] the executing furnace task has been successfully completed; and

causing said furnace idle timer unit to reset [[a]] the value of an idle elapsed time for [[a]] the furnace that has successfully completed [[a]] the executing furnace task.

20.   (Original)   The method as set forth in Claim 13 wherein said resource allocation controller further comprises a memory unit that comprises furnace process software that is capable of operating elements of said furnace resource allocator.

21.   (Currently Amended)   The method as set forth in Claim 13 further comprising the step of:

executing a furnace cycle purge process on a furnace to purge said furnace of moisture that said furnace absorbed ~~during the time that~~ when said furnace was open.

22.   (Currently Amended)   The method as set forth in Claim 21 further comprising the step of:

causing said furnace idle timer unit to reset [[a]] the value of ~~an idle~~ elapsed time for [[a]] the furnace that has successfully completed [[a]] the furnace cycle purge process.